Activity #10: Mathematicians --- Old and New! (Teacher version)
Math

Note to students: Each report will be graded according to the performance assessment list. Be sure to address each task in the list.
NCTM states:
The need to understand and be able to use mathematics in everyday life and in the workplace has never been greater and will continue to increase. For example:

***Mathematics for life*: Knowing mathematics can be personally satisfying and empowering. The underpinnings of everyday life are increasingly mathematical and technological. For instance, making purchasing decisions, choosing insurance or health plans, and voting knowledgeably all call for quantitative sophistication.**

***Mathematics as a part of cultural heritage*: Mathematics is one of the greatest cultural and intellectual achievements of humankind, and citizens should develop an appreciation and understanding of that achievement, including its aesthetic and even recreational aspects.**

***Mathematics for the workplace*: Just as the level of mathematics needed for intelligent citizenship has increased dramatically, so too has the level of mathematical thinking and problem solving needed in the workplace, in professional areas ranging from health care to graphic design.**

***Mathematics for the scientific and technical community*: Although all careers require a foundation of mathematical knowledge, some are mathematics intensive. More students must pursue an educational path that will prepare them for lifelong work as mathematicians, statisticians, engineers, and scientists.**

Purpose: **To investigate in depth one mathematician and his/her contributions**
To gain an appreciation and understanding of how pervasive mathematics is in our lives
To understand that mathematical thinking is alive and well

Materials: computer, Internet, library

Procedure:
1. You will prepare an in depth report on one mathematician. (Suggestion: Write the names of mathematicians, including some current names, on index cards. Turn face down and number. Match students to cards in some manner.)

A. Your report must include the following information:

- **a picture of your mathematician**
- **information about the math contributions made by your mathematician**
- **general information about your mathematician's life**
- **date and place of birth, life-span**
- **education and degrees earned**
- **some information about those mathematicians who influenced or were peers of your mathematician**

B. Your report must be organized as follows: (A graphic organizer may help students with the report organization. See below for one such organizer.)

- **cover sheet with your name, class, date, title and graphic**
- **three to five typewritten (size 12 font and double-spaced) pages, not including mathematician's picture**
- **bibliography sheet**

C. You will follow the MLA rules, as you do in English class, for formatting your report. See your English teacher or librarian for help. . (Post sheets to help students. Good time to discuss plagiarism. This activity offers an excellent opportunity to do some teaming with the English department. Students often work more earnestly, when work "counts" in more than one class.)

2. You will prepare a three to five minute speech to deliver to your classmates concerning the mathematician you researched. Be sure to include the *important facts* in your speech. You do not have to memorize, but should be familiar enough with your speech so that your notes are not read directly. Be prepared to answer some questions. (Classmates and teacher award points for this portion of the activity. See below.)

Extension:
After the class has presented, students will write a one-page critique of the activity, describing what they learned, what could have been done better, what they would change about the activity, etc.

The following web sites and articles provide enrichment and support for this activity:

1. PORTRAITS FOR CLASSROOM Bulletin Boards, Women Mathematicians, by Susan and John Edeen, text by Virginia Slachman, Dale Seymour Publications ©1990.

2. Outstanding Women in Mathematics and Science, National Women's History Project ©1991.

3. www.agnesscott.edu/lriddle/women/women.htm

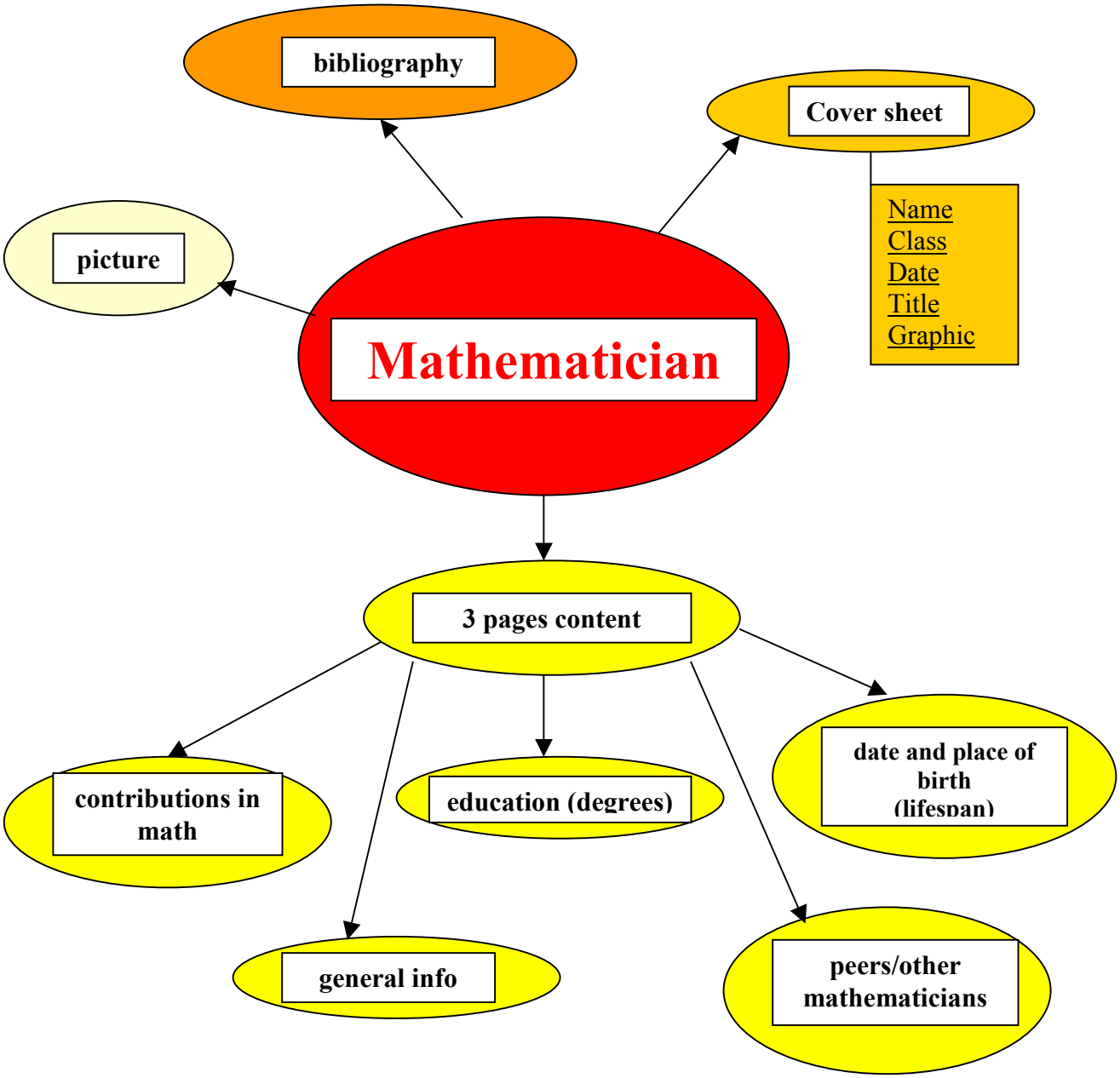
4. www-gap.dcs.st-and.ac.uk/~history/

5. www.maths.tcd.ie/pub/HistMath/People/RBallHist.html

6. aleph0.clarku.edu/~djoyce/mathhist/chronology.html

(Post sheets to help students. You may want to look at http://www.mla.org**. Good time to discuss plagiarism. This is an excellent opportunity to do some teaming with the English department. Students often work more earnestly, when work "counts" in more than one class.)**

Graphic Organizer



Assessment list

Cover Sheet: **your name** **class** **date** **title** **graphic**	**5 points _____**
3 pages, not including picture:	**10 points _____**
Mathematician's picture:	**5 points _____**
Double-spaced typewritten, 12-point font:	**5 points _____**
Content, general:	**25 points _____**
Content, math contributions:	**10 points _____**
Content, education and degrees:	**20 points _____**
Content, mathematical peers/influences:	**10 points _____**
Date and place of birth, lifespan	**5 points _____**
Bibliography:	**5 points _____**
Class presentation:	**5 points _____**

Your total out of a possible total of 105 points: _____

(Quick review of proportion here to help students change to percent score.)

Class Presentation Assessment List

_____ 1 point: Student speaks clearly.

_____ 1 point: Student addresses class for three to five minutes.

_____ 1 point: Student communicates meaningful points about the mathematician.

_____ 1 point: Student uses notes only when necessary.

_____ 1 point: Student answers reasonable questions.